

Claims

1. An apparatus for transferring information between a network and a storage device, the apparatus comprising:
 - a host computer having a CPU operating a file system and a host memory connected to said CPU by a host bus, and
 - an interface device coupled to said host computer, to the network and to the storage device, said interface device including an interface memory containing an interface file cache adapted to store data that is communicated between the network and the storage device under control of said file system,
 - wherein said host computer is configured to designate a Uniform Datagram Protocol socket that is accessible by said interface device, and said interface device is configured to communicate said data between the network and the file cache according to said Uniform Datagram Protocol socket.
2. The apparatus of claim 1, wherein said host computer is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data.
3. The apparatus of claim 1, wherein said host computer is configured to create a Realtime Transport Protocol header that is accessible by said interface device, and said interface device is configured to prepend said Realtime Transport Protocol header to said data.
4. The apparatus of claim 1, wherein said data is stored with an associated Uniform Datagram Protocol header, and said interface device includes a mechanism configured to process said Uniform Datagram Protocol header.

5. The apparatus of claim 1, wherein said data is prepended with a Uniform Datagram Protocol header by said interface device to create a Uniform Datagram Protocol datagram, and said interface device includes a mechanism configured to divide said datagram into plural fragments.
6. The apparatus of claim 1, wherein said data is disposed in plural fragments, and said interface device includes a mechanism configured to concatenate said fragments corresponding to a Uniform Datagram Protocol header,
7. The apparatus of claim 1, wherein said data does not enter said host computer.
8. The apparatus of claim 1, wherein said data includes audio data.
9. The apparatus of claim 1, wherein said data includes video data.
10. The apparatus of claim 1, wherein said data is a part of a realtime communication.
11. An apparatus for transferring information between a network and a peripheral device, the apparatus comprising:
 - a host computer having a processor connected to a host memory by a host memory bus, said host memory containing an application operable by the processor to designate a Uniform Datagram Protocol socket, and
 - an interface device connected to said host computer and coupled between the network and the peripheral device, said interface device including an interface memory adapted to store data corresponding to said Uniform Datagram Protocol socket and a mechanism configured to associate said data with a Uniform Datagram Protocol header corresponding to said Uniform Datagram Protocol socket such that said data is communicated between the network and the peripheral device without encountering said host computer.

12. The apparatus of claim 11, wherein said host computer contains a file system and said interface memory includes a file cache adapted to store said data, wherein said file system manages storage of said data in said file cache.

13. The apparatus of claim 11, wherein said data travels over the network in at least one packet containing a Uniform Datagram Protocol header, and said interface device includes circuitry configured to process said Uniform Datagram Protocol header.

14. The apparatus of claim 11, wherein said data travels over the network in plural fragments corresponding to a Uniform Datagram Protocol header, and said interface device is configured to concatenate said data with said Uniform Datagram Protocol header.

15. The apparatus of claim 11, wherein said host computer is configured to create a Realtime Transport Protocol header that is accessible by said interface device, and said interface device is configured to prepend said Realtime Transport Protocol header to said data.

16. The apparatus of claim 11, wherein said data includes audio data.

17. The apparatus of claim 11, wherein said data includes video data.

18. The apparatus of claim 11, wherein said data is a part of a realtime communication over the network.

19. An apparatus connectable to a local computer, a network and a storage device, the local computer having a CPU and a protocol processing stack, the apparatus comprising:

a memory including a file cache for temporary storage of data being transferred between the network and the storage device,

slow-path means for processing a first packet of a message by sending a header of said first packet to the local computer for processing by the CPU running the protocol stack, and

fast-path means for transferring a second packet of said message between the network and the storage device without processing by the CPU.

20. The apparatus of claim 19, wherein said header is a Uniform Datagram Protocol header.

ALA-012